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important social and environmental impacts or resort to inter- or trans-disciplinary approaches.

The vast number of important river works suitable to be presented as engineering case-studies justifies the option of the LOC in selecting them on a call-for basis. Although the call is open to anyone involved in river works, the LOC envisages that engineering companies and hydraulic laboratories are especially well placed to submit case-studies.

Three proposals will be selected to be orally presented. The visibility and the relative importance of the selected proposals is equivalent to those of key-note lectures. They will be awarded the same time for presentation and discussion and the corresponding paper will be included in the proceedings book. The remaining proposals will be treated as regular conference papers and, upon approval of the ISC, will be included in the conference proceedings.

Interested participants are reminded that the deadline for the submission of the two-page extended abstracts for engineering case studies is the 31st of December 2005. Additional information can be requested to the LOC at riverflow2006@riverflow2006.org.

Master Classes

Envisaging the sustainable growth of Fluvial Hydraulics community, Master Classes have been organized since the first edition of River Flow. They are destined to PhD or MSc students or young researchers working on Fluvial Hydraulics or related disciplines. Attendants have the opportunity to address senior scientists, meet peers working on similar topics and identify possible collaborations for the continuation of their work.

The complete list of River Flow 2006 Master Classes and invited Masters is displayed in the second conference bulletin and can be consulted at www.riverflow2006.org/masterclasses.htm. Additional information regarding the scope of each Master Class can be requested to the LOC at riverflow2006@riverflow2006.org.

The participating students of each Master Class will be selected by the Masters on the basis of a resume and a short description of their research work in the form of a 2 page extended abstract with illustrations. Students who are not selected will have the possibility to attend the Master Classes as observers.

Conference news

Further details on River Flow 2006 initiatives can be found in the second conference bulletin, available at www.riverflow2006.org. The third conference bulletin, containing details about registration is expected to appear in May 2006.

The LOC hopes to provide a singular environment for technical and scientific debate and trusts that River Flow 2006 will constitute an enjoyable experience for the all the participants.

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Personal response

Commercial Search Engines, International Databases or Traditional Libraries?

Prof. Hubert Chanson has written a personal response to the article on Google Scholar published in Issue 3, 2005.

In 2005, the IAHR Newsletter No. 3 presented an article by two young hydraulic researchers who did well to introduce a new Internet resource called Google Scholar™ (COZZOLINO and DI PACE 2005). This new Internet search engine aims to "*search specifically for scholarly literature, including peer-reviewed papers, theses, books, preprints, abstracts and technical reports from all broad areas of research*" (Google Scholar Beta). It is a powerful tool for the common public, including school and university students. But what is "*scholarly literature*" as defined by Google Scholar™? The search engine documentation is very quiet on thi. Could such a tool replace scientific libraries and databases?

Following this article, I tested Google Scholar and I compared its outputs/performances with commercial Internet resources, international Internet databases and traditional library resources. While I like Google Scholar™ and I continue to use it, I believe that it is important to remember that Google Scholar™ is a **commercial** tool from a dominant market leader (Google™) which is developing new Internet services (e.g. Google Earth™). Google Scholar™ is **not** a scientific database like EI Compendex™ and Web of Science™ which includes the Science Citation Index™. Indeed search results from Google Scholar often include more non-refereed references than peer-reviewed publications. For example, Table 1 lists the search results from two international databases and Google Scholar™ for several hydraulic engineering topics including tidal bore and broad-crested weir. While differences were expected, I noted that, with Google Scholar™, the quality of the search output was closely linked with the appropriate selection of technical and scientific terminology (Table 1). One advantage of Google Search™ is the ability to search for on-line/digital versions of older manuscripts. For example, I found at least six libraries that hold the classical book "Recherches Hydrauliques" by DARCY and BAZIN (1865), and a further twenty libraries that hold "Essai sur la Théorie des Eaux Courantes" (BOUSSINESQ 1877).

In recent years, I have become

concerned by an apparent disinterest from young researchers, engineers and students for basic references published prior to 1997-2000. Too often, these pre-1997-2000 publications are not available on-line. For example, the IAHR Journal of Hydraulic Research provides on-line abstracts from Volume 34 (1996) and on-line article access (PDF file) since Volume 39 (2001) only, and the same trend is true for most international scientific journals like Journal of Fluid Mechanics, Journal of Fluids Engineering or Experiments in Fluids. IAHR should initiate a project to scan all earlier issues of the Journal of Hydraulic Research for digital access. Importantly, the fact that an article or a book is not available in a digital format does not constitute a valid information on its standing. The number of citations by peers in refereed publications (e.g. using Science Citation Index) is a better indicator of scholarship and quality.

We must understand that computer search engines and Internet databases cannot replace conventional libraries. They fail to convey well images, pictures, and graphical information. For example, they cannot express the beauty of turbulence in Nature (Fig. 1) nor the sorrows of an environmental catastrophe (Fig. 2). Figures 1 and 2 show respectively an old painting of whirlpools at Naruto (Japan) and a photograph of the former Aral Sea coastline. Traditional library resources may include a wide range of support including audio-visual, hard copies of older books and 3D animation that are not on-line. Internet "surfing" does not replace browsing the shelves of a good scientific library. Furthermore digital materials are biased towards English literature, at the expense of other sources. Let us remember that ARCHIMEDES, HERO of Alexandria, Blaise PASCAL, Daniel BERNOULLI, Leonhard EULER, Louis NAVIER, Henri DARCY, among others, did not use English! The IAHR is the true proof that fluid mechanics and hydraulic engineering are multicultural (GARBRECHT 1987, HAGER 2003).

Lastly, hydraulic engineering and research is not a "virtual" science! Engineers and researchers must gain first hand experience in real professional situations, and comprehend the complex interactions between engineering and non-engineering constraints. Computer aids cannot replace field experience and personal individual observations (e.g. CHANSON 2004).

Fig. 1 - Modern reproduction in traditional style of the Japanese woodblock (Ukiyoe) by Hiroshige ANDO (1797-1858) "Whirlpools at Naruto, one of the sixty odd famous placed of Japan" - The reproduction pictures the Naruto Strait and whirlpools

In summary, I believe that Google Scholar™ fills a gap between traditional search engines and scientific databases. But it should not be confused with traditional international scientific databases that encompass key peer-reviewed scholarly works. Researchers, engineers and academics should remember these key differences in assessing the quality of bibliographic "research" that would derive solely from Google Scholar™ searches. In addition, Internet "surfing" and digital material cannot replace traditional library resources nor personal experience. This is particularly true in hydraulic engineering and the future lies probably in a complementary use of all tools by expert, knowledgable researchers, academics and engineers.

REFERENCES

BOUSSINESQ, J.V. (1877). "Essai sur la Théorie des Eaux Courantes." ('Essay on the Theory of Water Flow.') *Mémoires présentés par divers savants à l'Académie des Sciences*, Paris, France, Vol. 23, Série 3, No. 1, supplément 24, pp. 1-680 (in French).

CHANSON, H. (2004). "Enhancing Students' Motivation in the Undergraduate Teaching of Hydraulic Engineering: the Role of Field Works" *Jl of Prof. Issues in Engrg Educ. and Practice*, ASCE, Vol. 130, No. 4, pp. 259-268.

COZZOLINO, L. and DI PACE, P. (2005). "Using Google Scholar." *IAHR Newsletter*, Vol. 43, No. 3, pp. 44-45.

DARCY, H.P.G., and BAZIN, H. (1865). "Recherches Hydrauliques." ('Hydraulic Research.') *Imprimerie Impériales*, Paris, France, Parties 1ère et 2ème (in French).

GARBRECHT, G. (1987). "Hydraulics and Hydraulic Research : a Historical Review." *Balkema Publ.*, Rotterdam, The Netherlands.

HAGER, W.H. (2003). "Hydraulicians in Europe 1800-2000 : a Biographical Dictionary of Leaders in Hydraulic Engineering and Fluid Mechanics." *IAHR Publ.*, Madrid, Spain, 774 pages.

Fig. 2 - Muynak, the old Aral Sea port on the Southern shore, Uzbekistan in Sept 1998 where the shoreline has receded about 50 km North (Courtesy of Errol GRAIG) - Stranded fishing boat in the dying Aral Sea

Table 1: Comparative search results on hydraulic engineering topics

Search theme	Google Scholar™	EI Compendex™ 1884-2006	Web of Science™ 1945-2005
"Tidal bore"			
Number of results	170	78	25
Percentage of peer-reviewed works	50%	90%	100%
"Broad-crested weir"			
Number of results	85	58	28
Percentage of peer-reviewed works	45%	95%	100%
"Dam break wave"			
Number of results	71	30	15
Percentage of peer-reviewed works	85%	97%	100%
"Thixotropic fluid flow"			
Number of results	3	1	1
Percentage of peer-reviewed works	100%	100%	100%

Note: Searches performed on 3 August 2005

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Benoit Spinewine, Belgium

Benoit Spinewine, Winner of the John F. Kennedy Student Paper Competition

Benoit Spinewine, FSR Research Fellow, Department of Civil & Environmental Engineering from the Universite Catholique de Louvain, Belgium was awarded the 2006 John F. Kennedy Student Paper Prize in recognition of the completeness of his research by covering both numerical simulation and experimental verification.

He has just successfully defended his thesis on "Two-layer flow behaviour and the effects of granular dilatancy in dam-break induced sheet-flow" . Now he plans to submit a research proposal to the Belgian Research Agency and hopes to get funding for a three-years post-doc position. He is also looking for post-doc opportunities abroad.

Benoit Spinewine started his PhD with Prof. Y. Zech in November 2001, after having spent one year working with Gerrit Klaassen at the IHE Institute in Delft. He has taken part in several international conferences and congresses and has one paper published and several submitted and in preparation for scientific journals.